RECORD POWER
SHEFFIELD - ENGLAND®

DML36SH-MKII
Swivel Head Lathe

Instruction Manual

IMPORTANT
For your safety read instructions carefully before assembling this product. Save this manual for future reference.

Woodworking Machines & Accessories
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Consumable spare parts quick find

Part Description	Part Number
10” Toolrest	ZCF - CLO/J
Handwheel	ZBA
Bearing – 6202ZZ	ZABD
Bearing – 6204ZZ	ZABE
Main spindle	ZBQ
Poly V-belt, 4 rib	ZBO - CLO/I
Tool rest base (Banjo)	ZBE
M8 Ratchet handle - Toolrest	CLRC
Tailstock locking handle	BOBT
Pry bar #	ZCA
Dog point knob	CLKB
Banjo locking handle	BOBT/DML
M12 x 80mm Cup Sq neck bolt	CKCB
M12 Nut	ZABM

 # Not illustrated in parts diagram

Introduction

Dear Customer,
Thank you for investing in a RECORD POWER® WOODTURNING LATHE, which has been designed to give you years of satisfying service.
A complete list of accessories to enhance your enjoyment of woodturning is included at the back of this manual.
Please do not forget to fill in and return your guarantee card, this will assist us in providing you with prompt and appropriate after sales service. (This does not affect your statutory rights).

PURPOSE OF THIS MANUAL

This manual serves to give details of Specification, Health & Safety, Installation & Assembly, it does not serve to teach you the art and skill of Woodturning. This is best done by either attending a course run by a skilled woodturner, obtaining one of the many publications on the subject and by viewing our website (www.recordpower.co.uk) where you can find various woodturning tuition articles and projects. Please ensure you have sufficient basic skill before using this machine. We also run free courses at our training school near junction 30 of the M1. For details, please call 0870 7701777.

RECORD POWER AND THE ENVIRONMENT

Considerations of environmental issues are an integral part of the design, production and other associated aspects of this product, and all reasonable environmentally friendly options have been adopted throughout.
Users are advised to consider environmental issues associated with the use of this product, particularly when considering workpiece material. Confirmation of sourcing from well-managed forests is advisable whenever practically possible.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) REGULATIONS

The WEEE regulations aim to encourage reuse, recycling and recovery of electrical and electronic waste. The document outlining the WEEE guidelines is available at http://www.dti.gov.uk/sustainability/weee.

1. Health & Safety Guidance

READ ALL THE INSTRUCTIONS IN THIS MANUAL CAREFULLY BEFORE ASSEMBLY, INSTALLATION AND USE OF THIS PRODUCT.
KEEP THESE INSTRUCTIONS IN A SAFE PLACE FOR FUTURE REFERENCE.

WARNING: When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

SAFE OPERATION

1. Eye Protection
The operation of any machinery or power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Always wear safety glasses or other suitable eye protection. Wear safety glasses at all times when using the machine. Everyday glasses only have impact resistant lenses. They are not safety glasses which give additional lateral protection. We also advise that ear protectors are worn to avoid damage to hearing.

2. Keep work area clear.
Cluttered areas and benches invite accidents and injuries.

3. Consider work area environment.
Do not expose the machine to rain or damp conditions.
• Keep the work area well lit.
• Do not use the machine in the presence of flammable liquids or gases.

4. Guard against electric shock.
Avoid body contact with earthed or grounded surfaces.

5. Keep other persons away (and pets).
Do not let persons, especially children, not involved in the work, touch the machine, or extension cord (if used) and keep visitors away from the work area.

6. Store idle tools.
When not in use, tools should be stored in a dry locked- up place, out of reach of children.

7. Do not force the machine.
It will do the job better and work more safely if operated at the speed at which it was intended.

8. Use the right tool.
• Do not force small tools to do the job of a heavy-duty tool.
• Do not use tools for purposes not intended.

9. Dress properly.
• Non-slip footwear is recommended.
• Do not wear loose clothing, neckties or jewellery; they can be caught in the moving parts.
• Roll up long sleeves above the elbow.
• Wear protective hair covering to contain long hair.

10. Use protective equipment
• Use safety glasses. (See note 1. above)
• Use face or dust shield if cutting operation creates dust.

11. Connect dust extraction equipment.
Use dust extraction whenever possible. Dust not only damages and shortens the life of a machine but is also a serious health risk.

12. Do not abuse the cord.
Never yank the cord to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.

13. Secure work.
Ensure that your work piece is properly fixed before starting to turn.

14. Do not overreach.
Keep proper footing and balance at all times.

15. Maintain tools with care.
• Follow instructions for lubrication and changing accessories.
• Inspect electric cords periodically and, if damaged, have them repaired by an authorised service facility.
• Inspect extension cords (if used) periodically and replace if damaged. Always use proper size extension cord.

16. Disconnect Machine.
When not in use, before making adjustments and servicing etc, disconnect the machine from the power supply.

17. Never leave machine running unattended.
Turn power off, do not leave machine until it comes to a complete stop.

18. Remove adjusting keys and wrenches.
If you using a chucking system ENSURE chuck key is removed from chuck before switching the machine 'ON', any adjusting wrenches should also be removed from the machine.

19. Avoid unintentional starting.
- Ensure the switch is in the "OFF" position before turning on the power from the main electricity supply.

20. Out-door Extension Leads.
Your lathe should not be used outdoors.

21. Stay alert.
Watch what you are doing, use common sense and do not use the lathe when you are tired.

22. Check for damaged parts.
• Before use of the machine, it should be carefully checked to determine that it will operate properly and perform its intended function.
• Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation.
• A guard or other part that is damaged should be properly repaired or replaced by an authorised service centre unless otherwise indicated in this instruction manual.
- Have defective switches replaced by an authorised service centre.
• Do not use the machine if the switch does not turn on and off.

23. Warning!
• The use of any accessory or attachment, other than one recommended in this instruction manual, or recommended by Record Power may present a risk of personal injury.

24. Have your machine repaired by a qualified person.
• This electrical unit complies with the relevant safety rules. Only qualified persons using original spare parts should carry out repairs. Failure to do this may result in considerable danger to the user.

Maintenance and Servicing
This unit requires very little maintenance. This handbook gives clear instructions on installation, set up and operation.
Read these instructions carefully. Remember always to switch off and unplug from the main electricity supply before carrying out any setting up or maintenance operations.

Should you need advice the on repair or maintenance of this product, our Customer Service Department ON 0870 770 1777 and they would be happy to assist you.

2. Additional Safety Instructions For Woodturning

SAFETY IS A COMBINATION OF OPERATOR COMMON SENSE AND ALERTNESS AT ALL TIMES WHEN THE LATHE IS BEING USED.

WARNING: For your own safety, do not attempt to operate your lathe until it is completely assembled and installed according to the instructions and you have sought adequate training.

SAFE OPERATION

1. The Lathe should be bolted down to a stand or workbench for stability.

2. Before attaching the workpiece to the faceplate always "rough-out" to as "true round" as possible. This will minimise vibration whilst turning.

3. Always rough out "out of round" workpieces at slow speed. Running the lathe too fast could cause the workpiece to be thrown from the lathe or the turning tool to be jerked from your hands.

4. Always rotate the workpiece by hand before starting the lathe. If the workpiece strikes the tool rest, it could be split and thrown from the lathe.

5. Do not allow the turning tool to "bite" into the workpiece, which could result in splitting or ejection of the workpiece from the lathe. Always position the tool rest at the correct height so that the tool cutting edge is on or above the workpiece centre.

6. Do not apply the turning tool to the workpiece below the centre line of the lathe.

7. When using a faceplate always ensure the workpiece is well secured.

8. Avoid awkward hand positions, where a sudden slip could cause your hand to move into the workpiece.

9. Remove all loose knots and bark before attaching the workpiece.

10. If turning tools are stored near the lathe, hang them on the wall near the tailstock end of lathe. Do not lay them on a bench so that you reach over the revolving workpiece to select them.

11. Keep firm hold and control of the turning tool at all times. Use extreme caution when knots and voids are exposed. The turning tool could grab and be thrown, or dig into the workpiece and break it apart.

12. Find and read the WARNING label incorporated within the Machine Label mounted on the lathe motor.

13. Finish all hand sanding BEFORE removing the workpiece from the lathe. Do not exceed the speed used for the last cutting operation.

14. DO NOT remount a faceplate-turned workpiece to the faceplate unless you are deliberately turning eccentric work. You cannot remount faceplate turned work and have it run true, as the timber will have expanded or contracted.

15. DO NOT remount between-centres turning if the original centres have been altered or removed, unless you are deliberately turning eccentric work. Set to the lowest speed when remounting a between-centres turning.

16. Use extra caution when mounting a between-centres or spindle turning to a faceplate, or a faceplate turning to between-centres, for subsequent operations. ENSURE the lathe is set at the lowest speed before switching ON.

17. DO NOT mount a workpiece that contains excessive splits, shakes, or loose knots to a faceplate or between centres.

18. DO NOT perform any operations when hand holding the workpiece.

19. DO NOT mount a reamer, milling cutter, wire wheel, buffing wheel, drill bit or any other tool to the headstock spindle.

20. ALWAYS ensure that the turning tool is in contact with the tool rest before commencing the cut.

21. When the tool rest base unit is not in use (as when sanding), it should be moved away from the headstock, and the tool rest removed.

22. It is normal for the motor to run hot. Therefore care should be taken to avoid touching the motor, particularly when changing the belt position on the stepped pulleys.

23. Warning Labels – It is important that labels bearing Health & Safety Warnings are not removed or painted over. New labels are available from Customer Services.

24. Mechanical Safety – The security of all clamps, guards and work holding devices should be checked before switching on.

25. Wood Dust – The fine particles of dust produced in sanding operations can be a long-term health hazard. Some woods give off irritant dust that may cause a burning sensation. We therefore strongly recommend the use of a dust collector on your lathe and a suitable dust mask / visor. Our Customer Services Department will be happy to advise you on the correct unit for your needs.

26. This machine falls under the scope of the 'Health & Safety at Work etc. Act 1974', and the 'Provision & Use of Work Equipment Regulations 1998'. We recommend that you study and follow these regulations. Further guidance can be found in the Safe Use of Woodworking Machinery code of practice booklet (L114) published by Health & Safety Executive. This can be found at http://www.hse.gov.uk/pubns/wis15.pdf

For further help on any of the above matters please contact our Customer Services Department at :-
Tel: 0870 770 1777 Fax: 0870 770 1888

WARNING: Do not allow familiarity (gained from frequent use of your machine) to cause complacency. Always remember that a careless fraction of a second is sufficient to inflict severe injury.

3. Record Power Guarantee

1. INTRODUCTION

1.1 We supply machinery through a network of dealers and authorised distributors and you should be aware that your contract of sale is with the retailer from whom you purchased this product.

1.2 If you are not satisfied with this product you should in the first instance approach the retailer from whom you purchased it.

1.3 Customers have statutory rights to protect them and information on this can be found at the Citizens Advice Bureau or on such web-sites as that operated by the DTI (http://www.dti.gov.uk)

1.4 Returning your guarantee card will speed up the claims procedure and can be very helpful as a proof of purchase should the initial receipt be mislaid or damaged. We recommend that this is returned as close to your original purchase date as possible.

1.5 Correct installation, set-up, adjustment and routine maintenance of the machine are the responsibility of the end-user and problems arising from incorrect set-up, adjustment or maintenance are not covered by the terms of this guarantee. However support is available in the first instance from the retailer who supplied you and free technical support is available from Record Power on 0870 7701777 during office hours and from an extensive knowledge base on our website www.recordpower.co.uk. We also recommend those users who have not had suitable training in safe use of machinery to seek such training locally before using or attempting to set up and adjust any machinery (please contact your retailer for recommendations in your local area).

2. GUARANTEE

2.1 In addition to the above Record Power guarantees that for a period of 5 years from the date of purchase the components of this product will be free from defects caused by faulty construction or manufacture.

2.2 During this period Record Power will repair or replace free of charge any parts which are proved to be faulty in accordance with paragraph 2.1 above provided that:

2.2.1 You follow the claims procedure set out below;

2.2.2 We are given a reasonable opportunity after receiving notice of the claim of examining the product.

2.2.3 If asked to do so by us you return the product to Record Power's premises or other approved premises such as those of the supplying dealer, for the examination to take place.

2.2.4 The fault in question is not caused by continuous industrial use, accidental damage, fair wear and tear, wilful damage, negligence on your part, incorrect electrical connection, un-approved modification, abnormal working conditions, failure to follow our instructions, misuse, or alteration or repair of the product without our approval.

2.2.5 This product has been purchased by you and not used for hire purposes;

2.2.6 This Guarantee extends to the cost of carriage incurred by you returning the product to Record Power as long as it is demonstrated that the defect falls within the terms of this Guarantee and you follow the claims procedure as outlined below;

3. CLAIMS PROCEDURE

3.1 In the first instance please contact the retailer who supplied the product to you. In our experience many initial problems with machines that are thought to be due to faulty parts are actually solved by correct setting up or adjustment of the machines. A good dealer should be able to resolve the majority of these issues much more quickly than processing a claim under the guarantee.

3.2 If the dealer who supplied the product to you has been unable to satisfy your query, any claim made under this Guarantee should be made directly to Record Power at the address set out at the foot of this Guarantee. The claim itself should be made in a letter setting out the date and place of purchase, and giving a brief explanation of the problem which has led to the claim. This letter should then be sent with proof of the purchase date (preferably a receipt) to Record Power. If you include a phone number or email address this will help to speed up your claim.

3.3 PLEASE NOTE that it is essential that the letter of claim reaches the address below on the last day of this Guarantee at the latest. Late claims will not be considered.

3.4 We will contact you once we have received your initial written claim. If it is necessary to return the item, in most cases but subject always to clause 2.2.5, we will arrange for collection or will provide freepost information to enable return depending on the weight and size of the product concerned. If the product is to be returned to us, we will agree with you in advance a Returns Number, to speed tracking of the claim and ensure the most appropriate method of return to you is used.

4. NOTICE

This Guarantee applies to all goods purchased from an authorised retailer of Record Power within the United Kingdom of Great Britain and Northern Ireland. This Guarantee does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This Guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer. Additional written copies of this Guarantee can be obtained by writing to the address below. Please include a stamped and self addressed envelope for each copy of the Guarantee requested.

Record Power Ltd
Unit B, Adelphi Way
Ireland Industrial Estate
Staveley, Chesterfield
S43 3LS

4. Specification

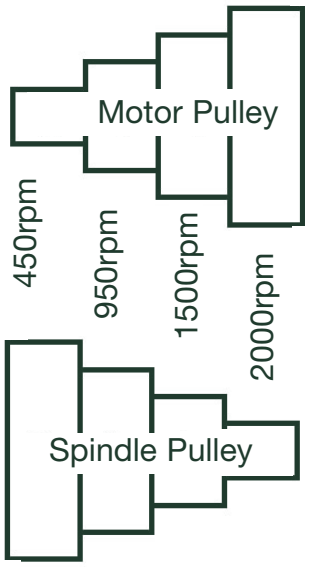
Max distance between centres	36” (914mm))
Max bowl Dia. over bed	9” (229mm)
Max bowl Dia. with DML-BR* fitted	12” (305mm)
Max spindle Dia.	6” (152mm)
Pulley Speeds (smallest - largest Dia.)	450, 950, 1500, 2000 (rpm)
Spindle Nose	3/4” x 16tpi
Motor Power:	1/3hp
Depth:	305mm
Width:	1295mm
Height:	298mm
Weight:	40kg

*DML-BR is an optional bowl rest attachment, available from all good stockists

HEADSTOCK SPINDLE AND TAILSTOCK BARREL BORED TO SUIT NO.1 MORSE TAPER SHANK. SPINDLE FLATTED TO SUIT 9/16" WHITWORTH WRENCH TO FACILITATE FITTING AND RELEASE OF SPINDLE NOSE ATTACHMENTS SUPPLIED. SPINDLE THREAD 3/4" X 16 TPI WHITWORTH THREAD.

PULLEY SPEED RANGES

By changing the belt on to each of the five different pulleys the speed can be varied from 450rpm to 2000rpm.



KINEMATIC DESIGN

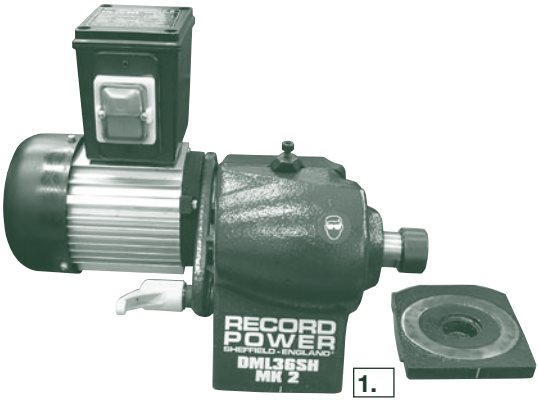
Throughout this manual you will find references to kinematics and the kinematic design of this product. The principle of kinematics is that three points of contact provide the most stability. The best example of this is to compare the stability of a three legged stool and four legged stool. The three legged stool utilises the kinematic concept and will never rock because it has three points of contact. The four legged stool however is far more unstable, only a tiny amount of distortion will cause the stool to become unstable and move. Record Power apply the kinematic design theory to the DML36SH lathe, wherever there is a critical piece of the structure being assembled kinematics are employed giving unsurpassed stability and rock solid performance. Please take care to follow all instructions when assembling, making sure that all critical kinematic areas are correctly positioned so that you enjoy optimum performance.

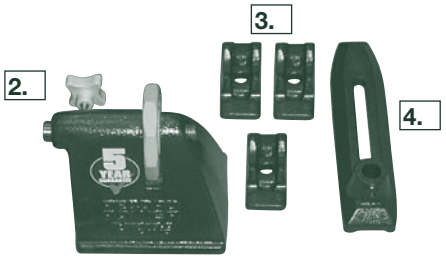
5. Assembly Instructions

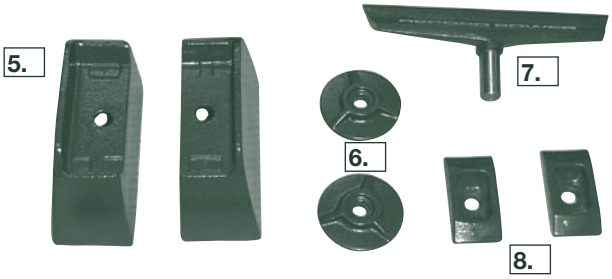
ASSEMBLY – IDENTIFYING CONTENTS

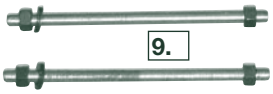
Inside the shipping container you will find the following:

1. Headstock & Saddle
2. Tailstock
3. 3 x Square Straps
4. Banjo
5. 2 x End Brackets
6. 2 x Wooden Bench Mounting Washers (Not Required on DML24S legstand, for use when mounting to a wooden bench) - see page 10
7. Toolrest
8. 2 x Angle Straps
9. 2 x Long Bolts (threaded bar)
10. Ratchet Handle (Toolrest)
11. Long Stem Locking Handle & M12 Bolt (Toolrest)
12. 2 x Short Stem Locking Handle (Headstock & Tailstock)
13. Tailstock Centre
14. Two prong drive centre
15. Pry Bar
16. 2 x Allen keys
17. Spanner
18. 2 x Bed Bars (separate box)









5. Assembly Instructions - cont.

Before assembling and using your lathe, you must have a sturdy bench or stand for it. We recommend the Record Power® DML24S Legstand. If you wish to build your own bench, remember that the lathe is heavy. The bench must not move during use. For bench mounting instructions see page 10.

WARNING
Inadequate strength of the bench could result in failure of the bench, which could cause the lathe to fall. Serious injury could occur.

WARNING
The lathe must not shift or move. If there is movement when the lathe is not running, this movement will be exaggerated when in use. Serious injury could occur and work quality will suffer.

CAUTION
To avoid back injury, get help lifting the lathe. Bend your knees, lift with your legs, not your back. The headstock is very heavy.

Bed bars & legstand assembly

1. To assemble the bed bars and legstand take one of the end brackets and wedge **Fig.5.1**.

2. Unscrew the nut and washer from one end of a long bolt and feed the long bolt through the holes in the wedge, end bracket and angle strap. Ensure that the wedge is the correct way around in relation to the end bracket **Fig.5.2**.

3. With the end bracket laid on the floor, feed two of the stand legs up into the end bracket as shown **Fig.5.3**. Replace the washer and nut, but do not tighten at this stage.

Ensure that the kinematic points on the angle strap oppose this on the end bracket **Fig.5.4A**.

4. Locate the bed bars in position under the angle straps and tighten in position **Fig.5.4B**.

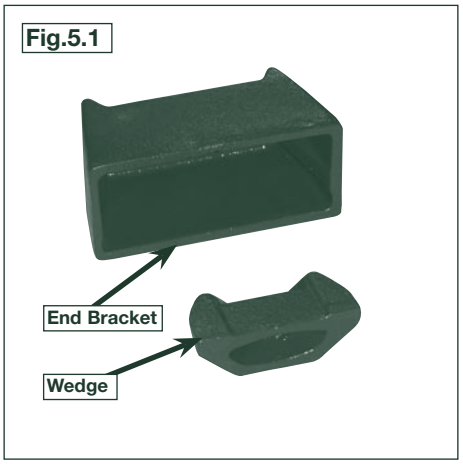
Assemble the second set of legs with the remaining end bracket, angle strap and wedge as instructed above.

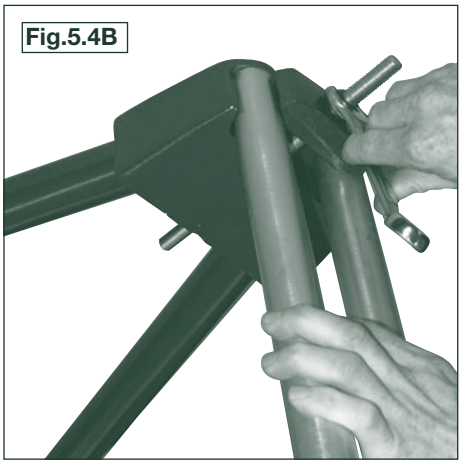
NOTE: If the optional DML-BR bowl bracket is to be fitted use this in the assembly procedure at this point in place of the second end bracket.

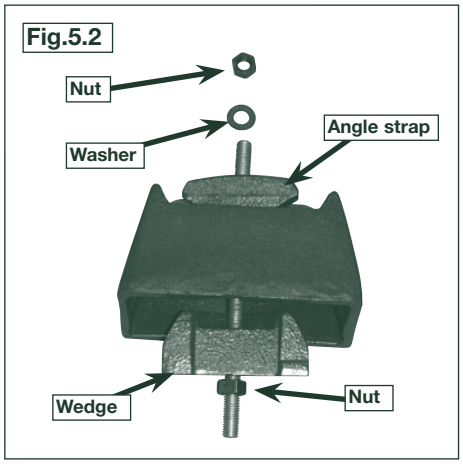
5. Lay the second set of legs on the floor. Hold the already assembled end of the bed bars/legstand above the legs on the floor and lower them into position **Fig.5.5**.

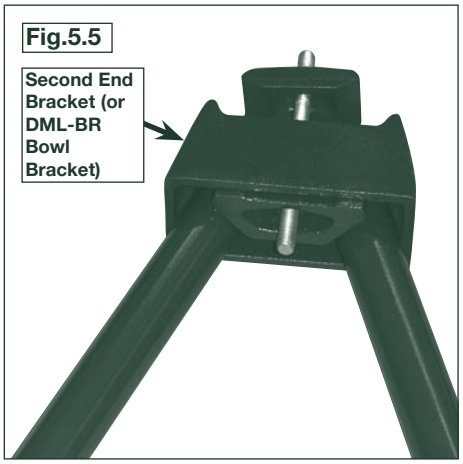
The end of the bed bars/legstand which is aloft must now be supported whilst the end resting on the floor is tightened. It may be advisable to seek assistance for this **Fig.5.6A**.

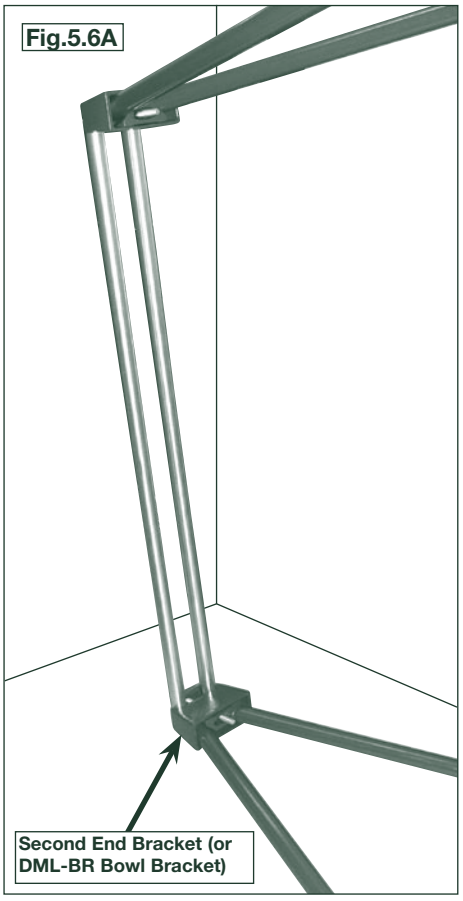
NB: It may be useful to seek assistance when assembling the legstand as some of the procedures may be difficult to complete single handed.

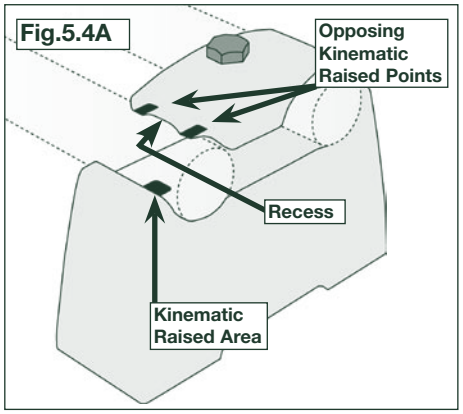












5. Assembly Instructions - cont.

7. Return the assembled legstand to its upright position. It maybe useful at this point to make sure that the legs are all aligned correctly and adjust if necessary. The bottoms of the legs are angled slighlty to provide a solid base. During assembly it is possible for the legs to become twisted. To align the legs slacken off the nut and twist the legs so the angle on the bottom of the leg lies flat on the floor **Fig.5.6B**

This alignment of the legs and bed bars is crucial to the success of the lathe assembly. Misalignment could cause the headstock and tailstock to be at an angle in relation to the bed bars.

Bed bars & Bench mounting assembly: Fig 5.7

1. Position the end brackets roughly in position at both ends of the bench.

NOTE: If the optional DML-BR bowl bracket is to be fitted use this in the assembly procedure at this point in place of the headstock end bracket.

2. Place the bed bars on the end brackets and space them accordingly

3. When you are satisfied that the end brackets are in the correct position you mark out where the holes will be drilled to bolt the lathe to the bench **Fig.5.7A**.

4. Ensuring that the surrounding area is clear, drill the holes using either a 1/2" or 13mm drill bit.

5. The end brackets and bed bars can now be repositioned to align with the pre drilled holes.

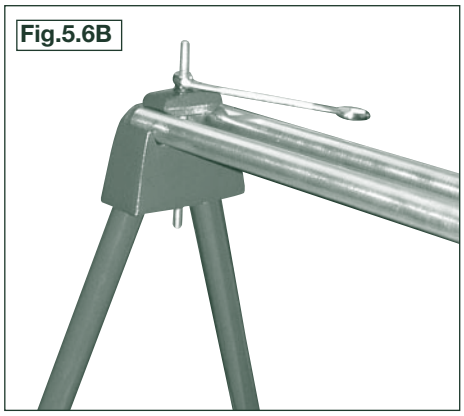
6. Place the square straps on each end of the assembly ensuring that the kinematic locations oppose each other **Fig.5.7B** i.e. the raised area on the angle strap opposes the recess on the end bracket.

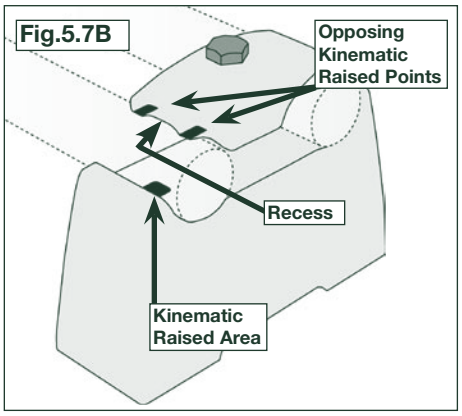
7. Pass the 12mm threaded bar through the angle strap, end bracket and bench. Place the washer and nut on to the top of the bar and wind down approximately four threads.

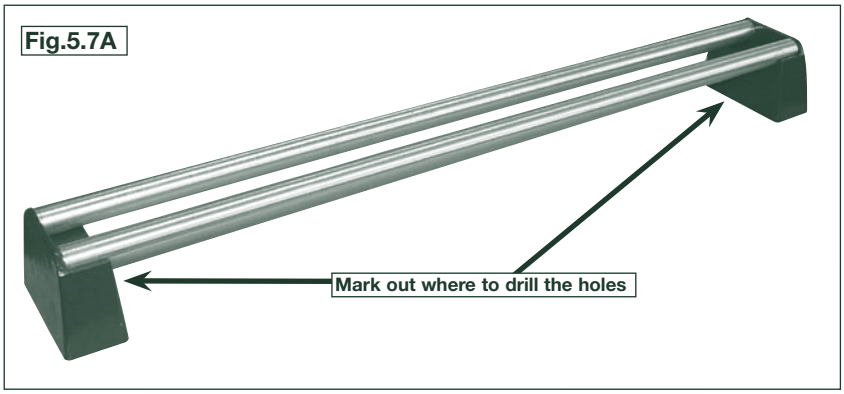
8. Do this on both end brackets.

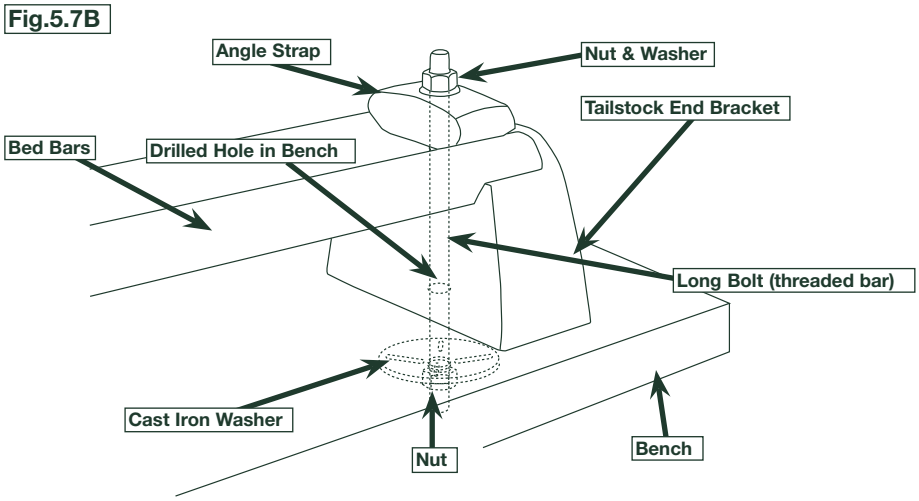
9. Now fit the cast iron bench washer to the exposed piece of threaded bar on the underside of the bench and secure with the second nut. Before fully tightening, ensure that the bars are aligned straight and supported by the end brackets. Also double check to make sure that the kinematic points are correctly positioned i.e. recess opposing raised area.

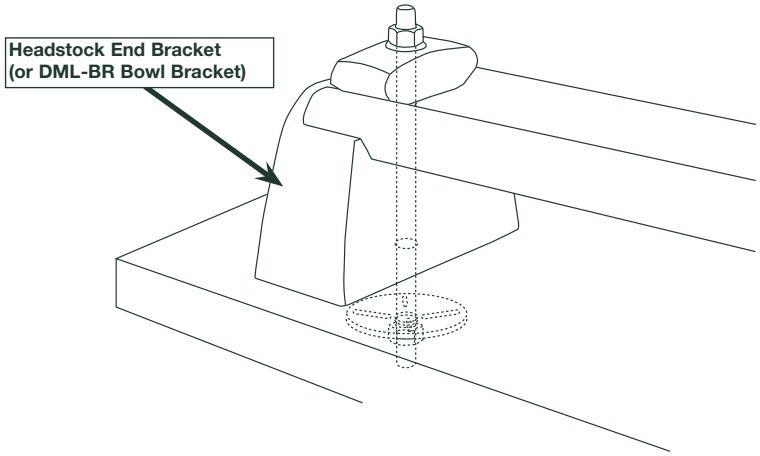
10. Tighten both of the nuts on each assembly against each other to secure the end brackets.











5. Assembly Instructions - cont.

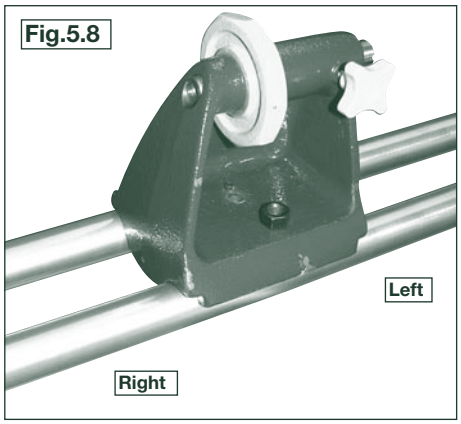
Attaching the tailstock

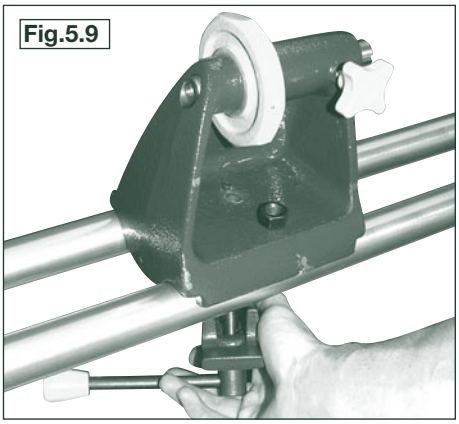
1. Place the tailstock onto the bed bars at the right hand end of the assembly **Fig. 5.8** (shown in reverse angle).

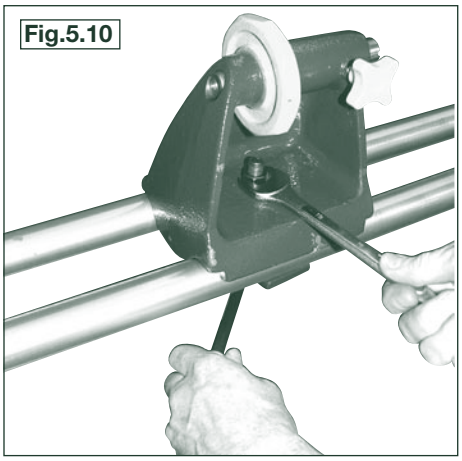
2. From behind, introduce the square strap and tailstock locking handle underneath the bed bars, ensuring that the recess is to the front of the lathe opposing the raised area on the tailstock. **Fig. 5.9**.

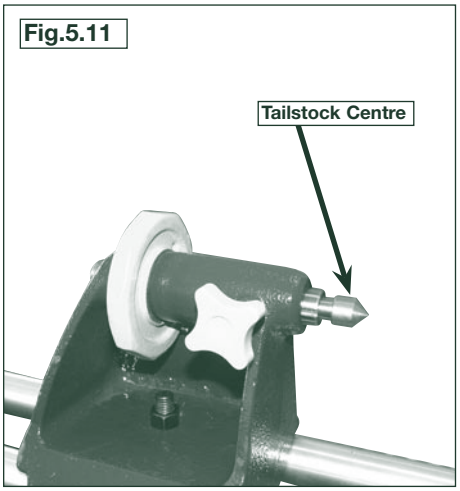
3. Ensure hex nut is up against the roll pin inside the tailstock and wind the locking handle up into the nut until the tailstock is firmly in place **Fig. 5.10**. You may find it easier to use a spanner to keep the nut in place whilst winding up the lock handle.

4. Now take the tailstock centre and place it into the barrel of the tailstock **Fig. 5.11**.









5. Assembly Instructions - cont.

Banjo & Toolrest Assembly

1. Place the banjo onto the bedbars where it will sit. Split the long stem locking handle and bolt placing the threaded bolt through the banjo. Now offer the angle strap to the underside of the bedbars and tighten the locking handle onto the bolt **Fig.5.12**.

2. Insert the toolrest into the banjo and tighten the toolrest ratchet handle **Fig.5.13.**

TIP
To improve comfort and fully tighten the toolrest locking handle in all applications of woodturning; rotate the coach bolt into one of four different positions through 360º. Every time a different face on the nut is registered against the registration face on the banjo, the handle will lock in a different position. **Fig. 5.14.** The diagram shows the approximate position of where the handle will lock when the corresponding hex nut face is registered.

This principal also applies to both of the Tailstock and headstock locking handles. Every time a different face on the nut is registered against the pin the handle will lock in a different position. This is necessary when sliding the headstock and tailstock to the end of the bed bars in order to prevent the locking handle from fouling on the end bracket.

Fig.5.12

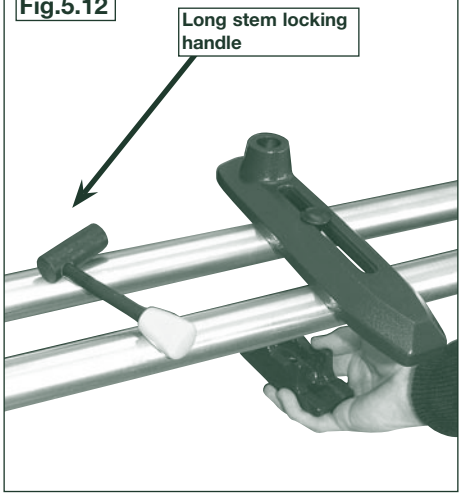
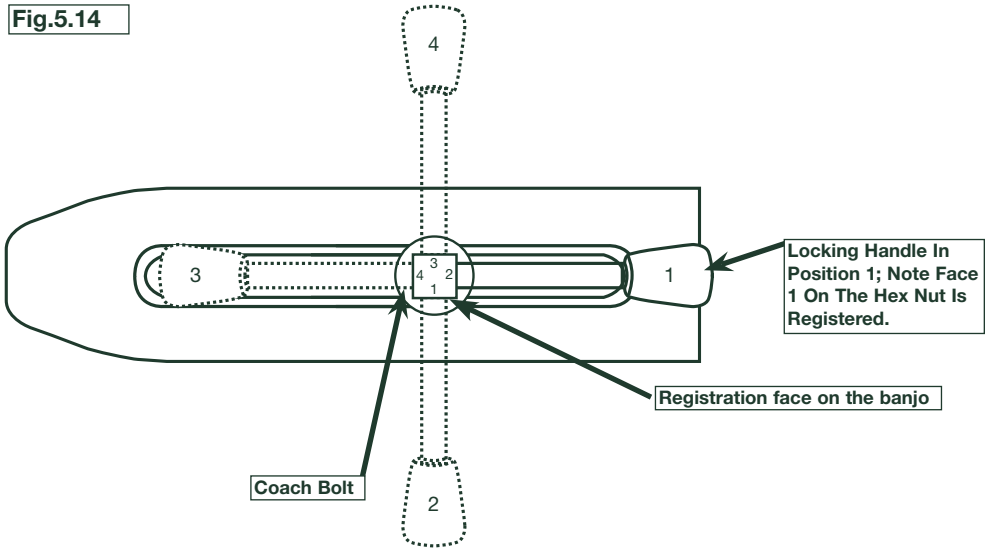


Fig.5.13

Fig.5.14



Numbers are for illustrative purposes only, actual components are not numbered.

5. Assembly Instructions - cont.

Headstock

1. Place the saddle on the bed bars **Fig.5.15**.

1. Remove the cover plate from the headstock using the Allen key **Fig.5.16**.

2. When fitting the remaining locking handle and square strap ensure that recess part of the square strap is on the same side as the white indication line on the saddle **Fig.5.17**. Carefully lower the headstock onto the saddle, it is advisable to angle the headstock assembly so the motor rests on the bed bars, this will bear most of the weight **Fig.5.18**.

3. Now feed the locking handle through the saddle and headstock, fasten the hex nut on to the locking handle which is showing inside the headstock **Fig.5.18**. Ensure the nut seats against the roll pin on the inside of the headstock **Fig.5.19**.

Caution: This component is very heavy and will not be stable on the bed bars until the nut and bolt are fastened. Assistance should be sought.

4. Tighten the locking bar into the nut securing the headstock assembly **Fig. 5.20**.

5. Rotate the thread protector by hand and inspect the drive belt on the pulleys ensuring that it runs true **Fig.5.21.** If it doesn't, slacken the grubscrews, slide the stepped pulley along the motor shaft until the correct position is achieved and the belt is aligned straight.

6. Now tighten the dog grub screw which has been inserted previously. Then take the second grub screw and tighten this in on top of the dog grub screw locking the position of the motor pulley **Fig.5.22**.

7. Finally replace the headstock cover plate and secure this with the Allen bolt.

The assembly of the lathe is now complete. **(Fig.5.23 and Fig.5.24 - next page)**

Fig.5.15

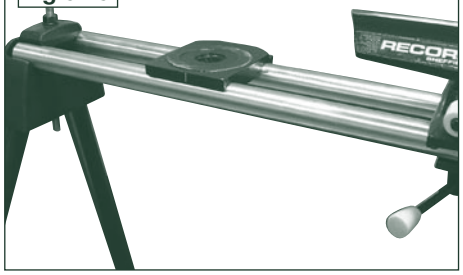


Fig.5.16

Fig.5.17

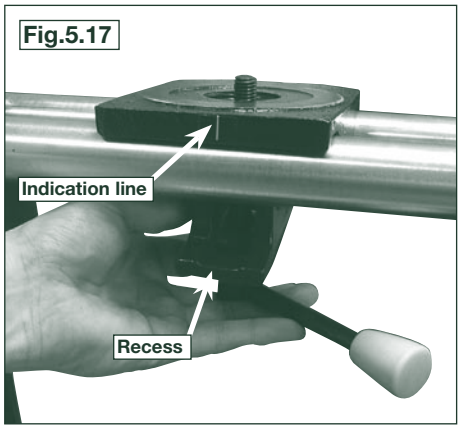


Fig.5.18

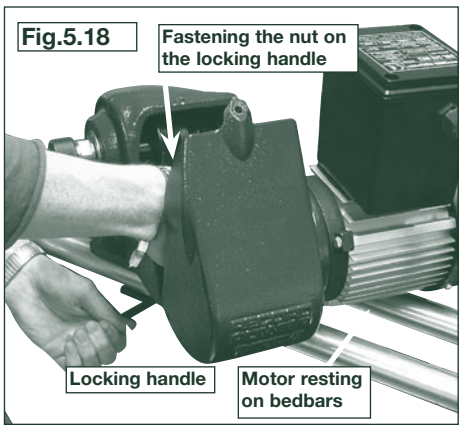


Fig.5.19

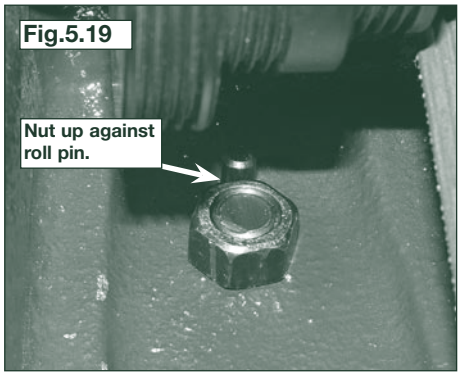


Fig.5.20

Fig.5.21

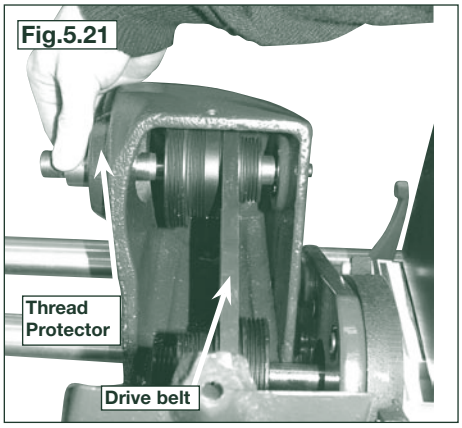
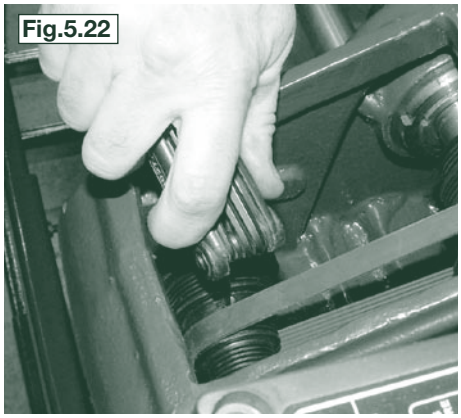


Fig.5.22



TIP

The pulleys lock onto the shafts using two grub screws.

A knurled base grub screw which locates into the dog grub screw.

Then the dog grub screw locates into the groove on the shaft.

5. Assembly Instructions - cont.

Fig.5.23

Fig.5.24

6. Connection of the Electricity Supply

Once the machine has been correctly assembled and set up the electricity supply can be connected.

The machine can only be connected to a single phase supply. Before connecting the electrical supply ensure that it is the correct voltage, phase and frequency, and that it has sufficient capacity for the machine. The relevant information can be found on the rating plate located on the rear of the machine.

Machines supplied for use in the UK are fitted with a BS1363 plug fitted with a 13 amp fuse. Ensure that you use the appropriate plug for use in other countries. If the plug fitted to the machine is changed for any reason, the wires in the mains lead are coloured in accordance with the following code:

Green and yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals on your plug, proceed as follows:

The wire coloured green and yellow must be connected to the terminal marked ‘E’ or by the earth symbol ~ or coloured green; or green and yellow.

The wire coloured blue must be connected to the terminal marked ‘N’ coloured black.

The wire coloured brown must be connected to the terminal marked ‘L’ or coloured red.

IT IS IMPORTANT THAT THE MACHINE IS EFFECTIVELY EARTHED.

If in doubt about the connection of the electrical supply consult a qualified electrician.

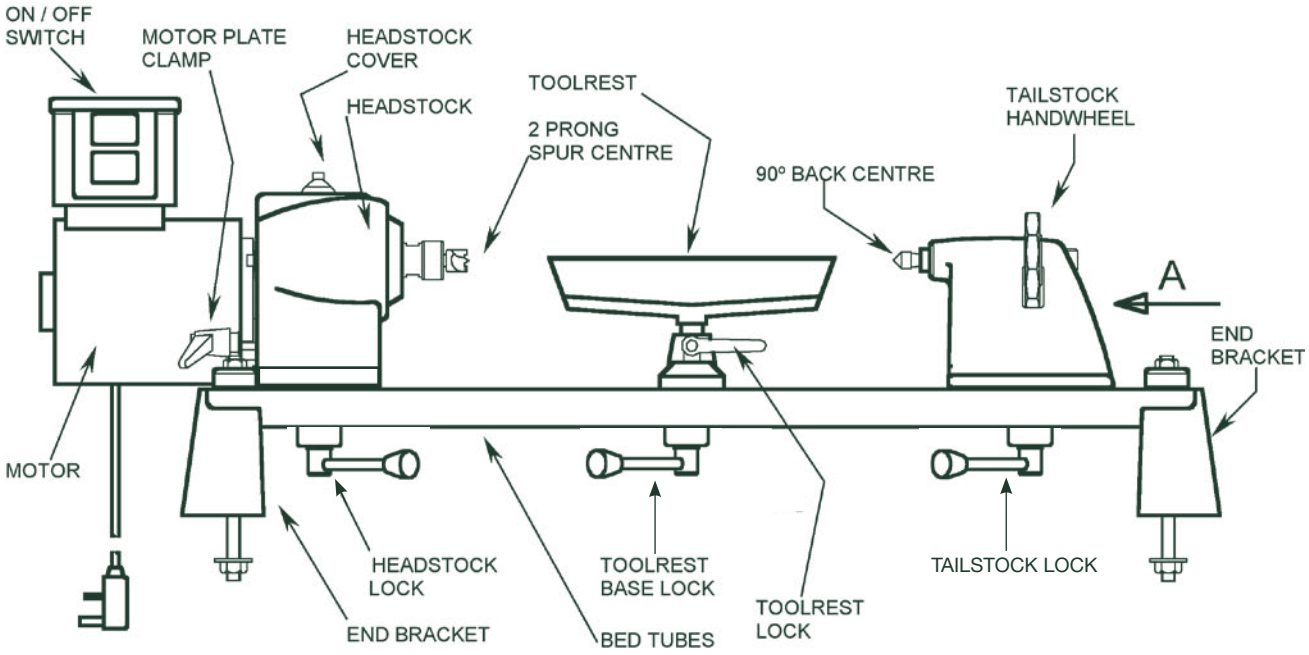
7. Wiring Information

Replacing Power Supply Cable
Replacement of the power supply cable should only be done by a qualified electrician.

WARNING
To avoid electrocution or fire, any maintenance or repair to electrical system should be done only by qualified electricians using genuine replacement parts.

8. Control Identification & Function

Fig.8.1

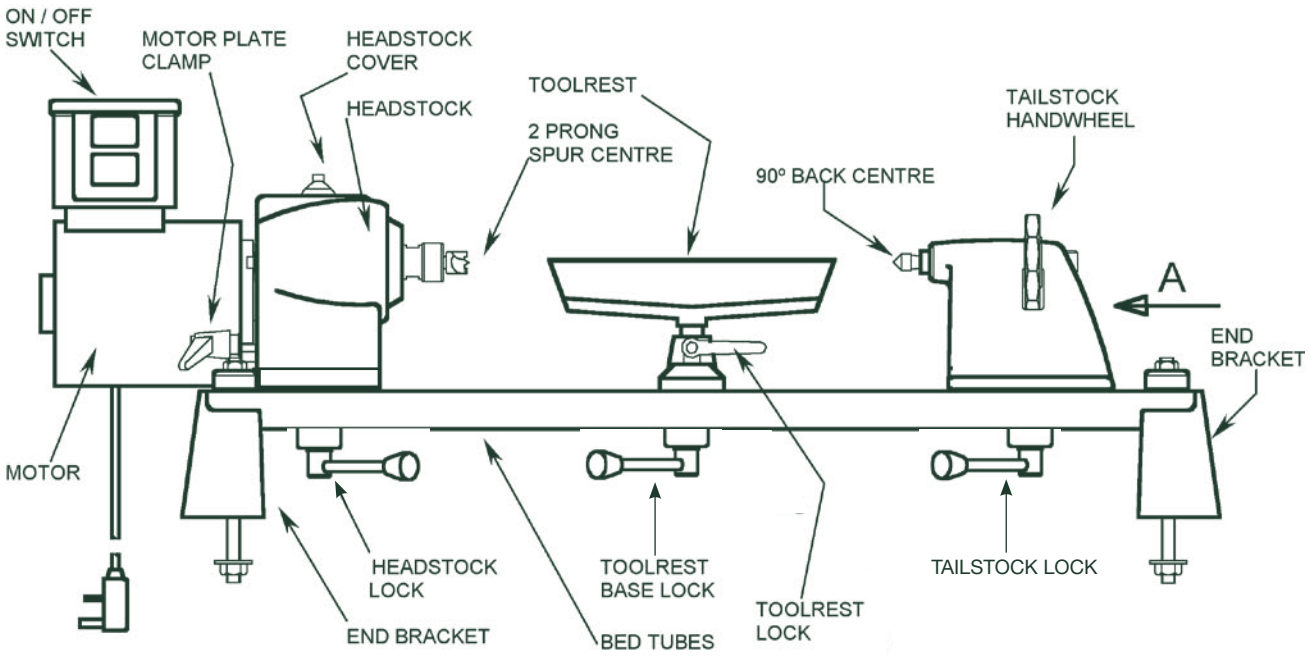


CONTROL	FUNCTION	OPERATION / COMMENT
Tool rest	Supports turning tool	Position as per lathe safety instructions (section 2, part 5)
2 Prong centre	Holds and drives workpiece for spindle turning	Provides driving force from motor. Firm contact is required.
Cup centre	Supports free end for spindle turning	Provides support for end of spindle which is not driven.
Headstock lock	Locks headstock to bed bars. Allows headstock to slide along bed bars and swivel.	Turn handle clockwise to lock. Firmly lock before mounting work.
Toolrest lock	Locks toolrest post into base	Turn clockwise to lock.
Toolrest base lock	Locks toolrest base to bed bars	Turn clockwise to lock
Tailstock lock	Locks tailstock to bed bars	Turn right to lock. Position tailstock along bed bars before locking
Motor plate clamp	Locks motor when belt is tight.	Loosen to adjust belt for selected speeds. Tighten when belt is properly positioned.
Tailstock handwheel	Moves tailstock centre into workpiece	Rotate clockwise to move back centre towards workpiece.
Tailstock centre lock	Locks tailstock centre	Turn clockwise to lock after positioning back centre with handwheel.

9. Lathe Operation

WARNING: For your own safety, turn OFF and remove plug from power source before making any adjustments.

Fig.8.1



1. Ensure that the grub screws in the two pulleys are fully tightened. It is advisable that these should be checked periodically, (two grub screws per pulley). Remove outer grub screw before tightening fully the inner dog grub screw then replace outer grub screw to lock in position.

2. Adjustment of the tailstock along the lathe bed rails is obtained by slackening the **tailstock locking handle Fig 8.1** and moving the tailstock to the desired position, then lock firmly. When working between centres, the tailstock centre is positioned in the workpiece by means of the tailstock hand wheel. The barrel is then locked in position by the **tailstock centre lock Fig 8.1**.

3. Adjustment of the toolrest base on the lathe bed rails is achieved by slackening the **Toolrest base lock Fig 8.1** under the **toolrest banjo Fig 8.1** and moving it to the desired position, then locking firmly.

4. Adjustment of the toolrest is obtained by slackening the **toolrest lock 8.1** in the nearside of the **toolrest banjo** and moving the toolrest to the desired position, then locking firmly.

5. Always ensure that the adjustments mentioned above have been followed by firm clamping before starting the lathe and always turn the workpiece by hand to ensure it will not foul on any part of the lathe.

9. Lathe Operation - cont.

CAUTION!

Before carrying out any adjustments or maintenance ensure that the machine is isolated and disconnected from the electricity supply.

SPEED SELECTION

Speed (RPM) controls the quality and safety of the work. Too slow and the finish will not be smooth. Too fast and the work may be out of balance. It will virbate and could even work loose causing damage or even risking severe injury. Follow these steps to obtain the correct speed.

1. Remove the tool rest from the lathe.

2. Trim work before turning the lathe ON. Mount work on the lathe and spin it by hand. Imbalance is the result of one side being heavier than the other. Trim excess with a saw, sander, chisel or other means.

WARNING: Unbalanced workpieces can be thrown off the lathe at high speed. You can be seriously injured if hit by flying pieces. Always wear a face shield or suitable protection and ensure work is mounted securely. Start with a slow speed at first and build up to optimum speed.

3. Set spindle speed to lowest speed and replace headstock cover if necessary, before turning the lathe ON.

4. Stand to the side of the workpiece when turning the lathe ON. So that if the work does fly off, you will not be in it's path.

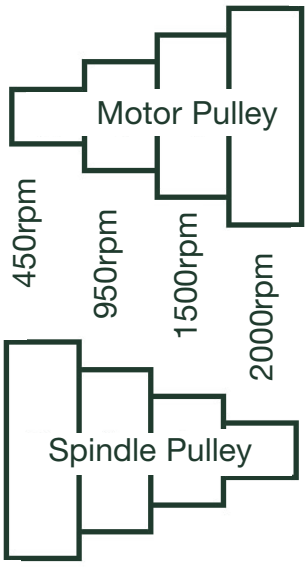
If, after letting the workpiece rotate at the slower speed, you are satisfied that it rotates safely, stop the machine, replace the toolrest and begin to rough out the work piece.

5. Adjust to a higher speed only after roughing out is complete and the work is balanced.

WARNING: Excessive speeds can cause the workpiece to break apart, throwing pieces in all directions. Always use the lowest speed that produces acceptable results. Any item that cannot be turned over the bed bars – MUST be turned using the lower speed range.

PULLEY SPEED RANGES

By changing the belt on to each of the five different pulleys the speed can be varied from 450rpm to 2000rpm.



9. Lathe Operation - cont.

CHANGING THE BELT SPEED

1. Turn the lathe OFF and disconnect from power source.

2. Remove headstock cover. **Fig.9.1.**

3. Unlock motor plate using the tension lever. **Fig.9.1**

4. Lift motor to loosen belt.

5. While supporting the weight of the motor with one hand, move the belt to the desired pulley position **Fig.9.2**. Turn the spindle by hand to assure the belt is seated on both pulleys.

6. Lower motor to tighten the belt.

7. Rotate pulleys by hand to seat the belt on pulleys **Fig.9.3**.

8. Replace the headstock cover.

9. Reconnect the power plug to the power source. Turn the lathe on and check the spindle. If not turning at the desired speed, repeat steps above, starting with step 1.

WARNING: Do not operate the lathe without the headstock cover locked in place. Loose items, clothing or hands may enter the opening and become entangled in rotating parts. Serious injury could occur.

CHANGING THE HEADSTOCK FITMENT

To change the headstock fitment:

1. Hold the spindle inside on the headstock to stop it from turning, either by hand or with the spanner held on the wrench flat **Fig.9.4**.

2. Loosen the thread protector **Fig.9.5.** use bar for extra leverage if required.

3. The drive centre can then be removed.

CHANGING THE TAILSTOCK FITMENT

To change the tailstock fitment:

1. Take the bar and insert it into the tailstock barrel **Fig.9.6.**

2. Tap the bar with a mallet and the centre will eject from the tailstock **Fig.9.7.**

Fig.9.1

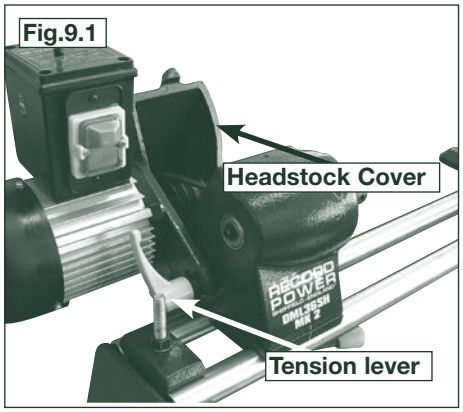


Fig.9.2

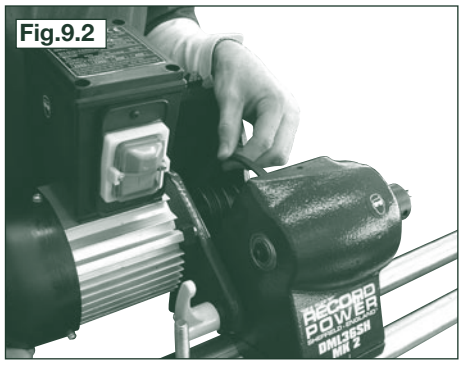


Fig.9.3

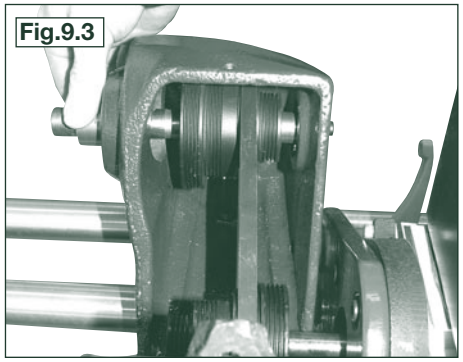


Fig.9.4

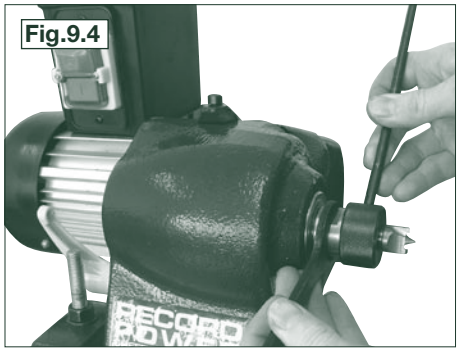


Fig.9.5

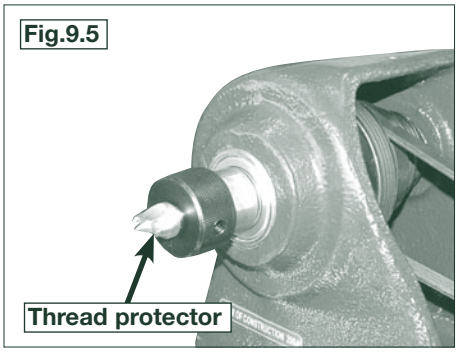


Fig.9.6

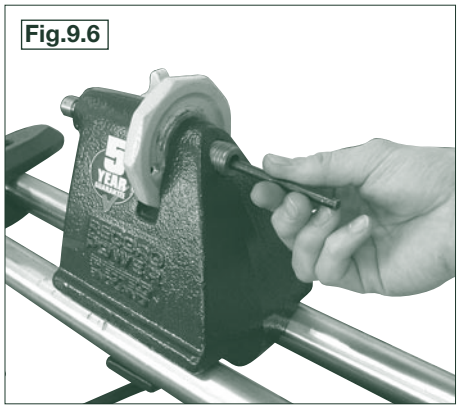
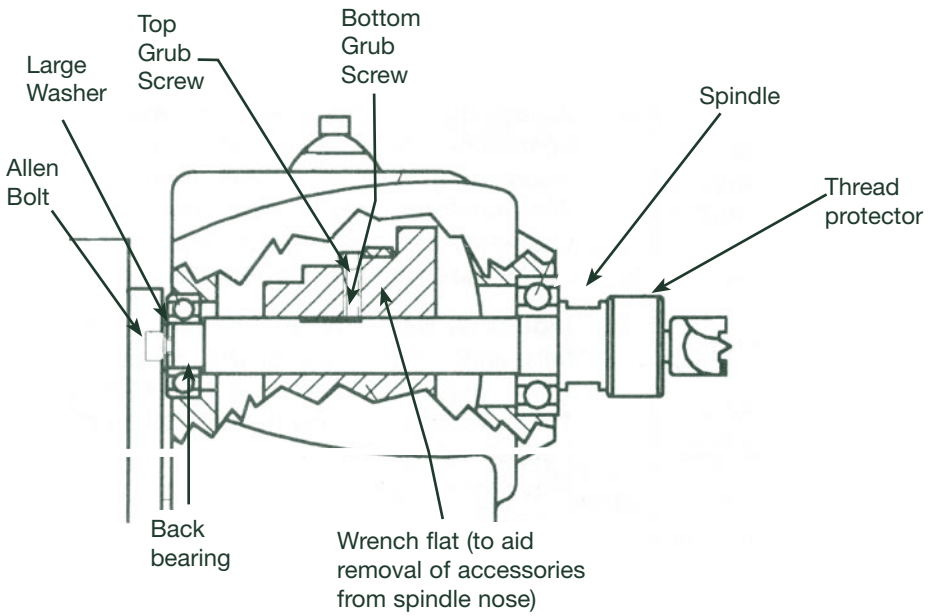


Fig.9.7

10. Maintenance

Fig. 10.0
Cross Section of Spindle
& Bearing Assembly



CAUTION!

Before carrying out any adjustments or maintenance ensure that the machine is isolated and disconnected from the electricity supply.

PROCEDURE FOR REPLACING BELT & BEARINGS

Please note as well as the tools supplied with the product you will also need a wooden or nylon mallet to carry out this procedure.

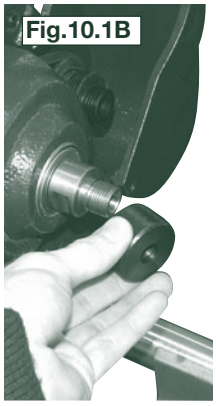
1. Remove headstock cover plate **Fig. 10.1A**. and **thread protector Fig. 10.1B**.

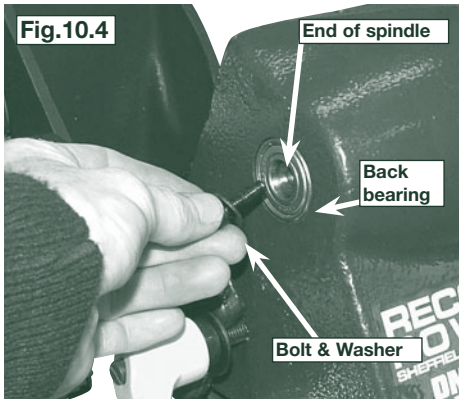
2. Release belt tension lever **Fig. 10.2**.

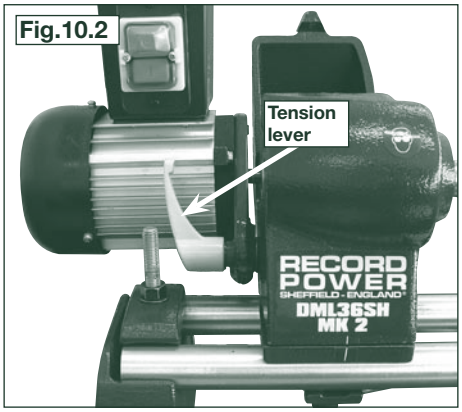
3. Supporting the motor with one hand Remove the drive belt from the motor pulley **Fig. 10.3**. Lower the motor and tighten the tension lever.

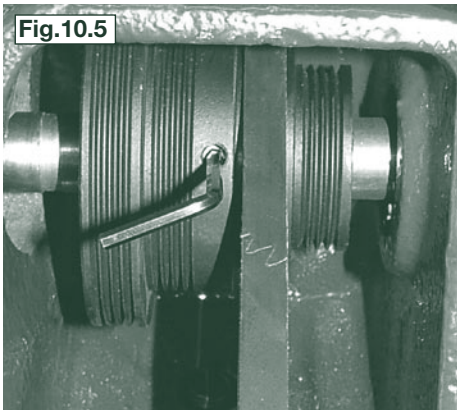
4. Unscrew the Allen bolt and remove this with the washer from the end of the spindle **Fig. 10.4**.

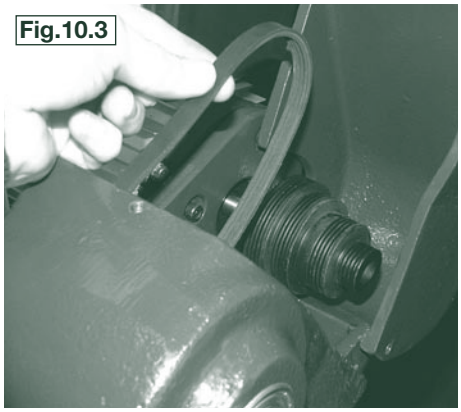
5. Remove the top grub screw from the spindle pulley. Loosen the bottom dog grub screw a few turns so that the pulley will slide freely along the full length of the spindle inside the headstock. **Fig. 10.5**.











10. Maintenance - cont.

6. Taking a suitable drift such as a brass rod or piece of timber and a mallet drive the spindle from the back bearing through the headstock. **Fig.10.6A**. If you are not replacing the bearings take care not to damage the bearing itself, ensure you only strike the spindle. The white circle **Fig.10.6B**. indicates the division between the spindle and bearing.

Note: Ensure you only strike the edge of spindle taking care not to damage the threaded part in the centre **Fig.10.6C**.

7. The spindle should appear from the main headstock casting **Fig.10.7**.

Note: If you are only changing the drive belt there should now be a sufficient gap to do so. When you have placed the new belt on the spindle pulley proceed to step 13.

8. Remove the spindle from the headstock and take out the pulley.

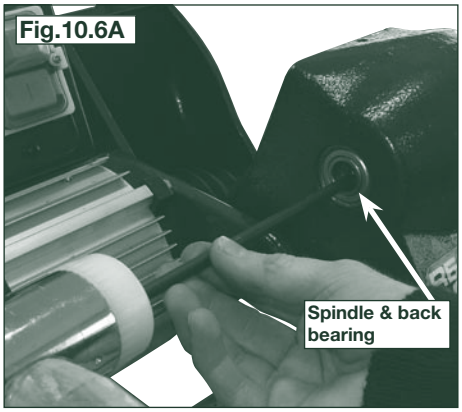
9. Using a suitable brass rod or piece of timber knock out the back bearing using a mallet **Fig. 10.8**. This back bearing should now be removed.

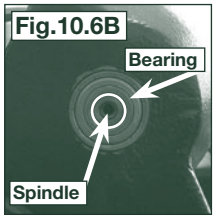
10. Now that the back bearing has been removed, pass a piece of timer or brass rod through from the other direction and knock out the front bearing **Fig. 10.9**.

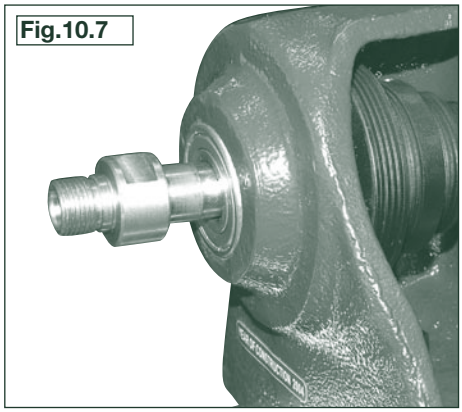
11. The new front and back bearings can now be fitted.

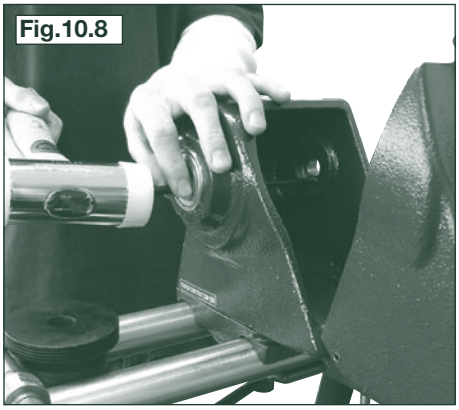
12. Offer the bearings into position and knock them back into place until they seat against the circlip **Fig.10.10A**. Repeat this process to fit the back bearing **Fig.10.10B**.

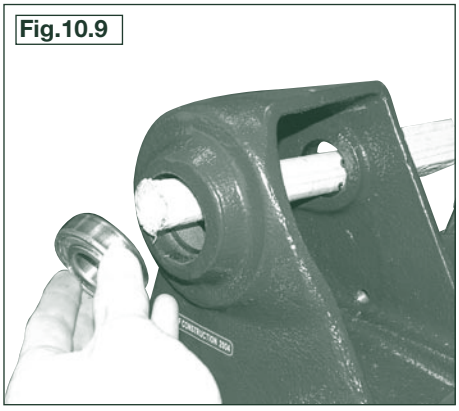
13. Screw the thread protector back on to the spindle. It is now ready to be fitted in the headstock.

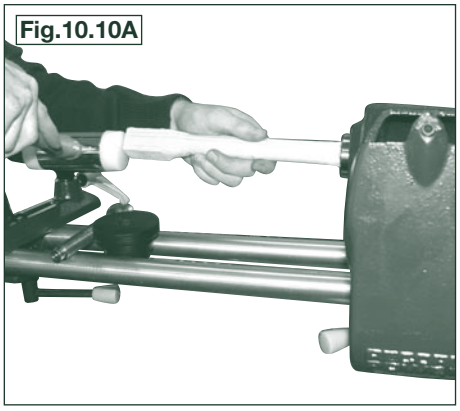


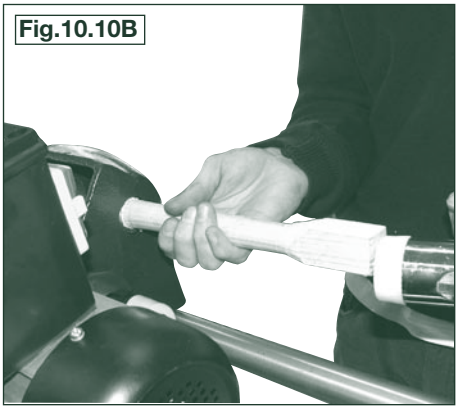


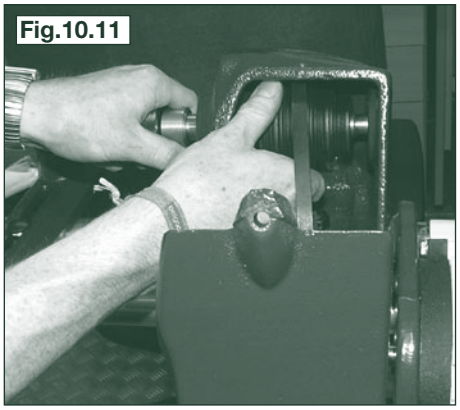












10. Maintenance - cont.

6. Taking a suitable drift such as a brass rod or piece of timber and a mallet drive the spindle from the back bearing through the headstock **Fig.10.6A**. If you are not replacing the bearings take care not to damage the bearing itself, ensure you only stirke the spindle. The white circle **Fig.10.6B** indicates the division between the spindle and bearing.

Note: Ensure you only strike the edge of the spindle taking care not to damage the threaded part on the centre **Fig.10.6**.

7. The spindle should appear from the main headstock casting **Fig.10.7**.

Note: If you are only changing the drive belt there should now be a sufficient gap to do so. When you have placed the new belt on the spindle pulley proceed to step 13.

8. Remove the spindle from the headstock and take out the pulley.

9. Using a suitable brass rod or piece of timber knock out the back bearing using a mallet **Fig. 10.8**. This back bearing should now be removed.

10. Now that the back bearing has been removed, pass a piece of timer or brass rod through from the other direction and knock out the front bearing **Fig. 10.9**.

11. The new front and back bearings can now be fitted.

12. Offer the bearings into position and knock them back into place until they seat against the circlip **Fig.10.10A**. Repeat this process to fit the back bearing **Fig.10.10B**.

13. Screw the thread protector back on to the spindle. It is now ready to be fitted in the headstock.

14. Slide the spindle back into the headstock and into the pulley. Ensure that the drive belt is fitted around the spindle pulley **Fig.10.11**.

15. While the spindle and bearing is being knocked into place, one hand must be used to keep rotating the spindle a 1/4 turn at every strike of the mallet **Fig.10.12**. This ensures that the spindle seats correctly in the bearings. You will feel the spindle seat against the headstock and there will be a dull thud as the mallet strikes the thread protector. This stage is now complete.

16. Replace the Allen bolt and large washer into the back of the headstock. Do not over tighten this, the bolt should only be turned until finger tight **Fig. 10.13**, then apply a 1/4 of turn with an Allen key.

17. If not already done the drive belt should now be placed on the motor pulley and the spindle pulley adjusted so as to line up with the motor pulley, finally tighten the two grub screws into the spindle pulley **Fig.10.14**.

18. Re-tension belt by applying slight downward pressure on motor then tighten the tension lever. With the belt in position and the headstock cover replaced the machine should be run for a little time to enable the belt to bed in.

19. Position the spindle pulley so as to line up with the motor pulley **Fig.10.15**.

If you have any problems fitting a new belt or bearing please call our customer services department on 0870 7701777 who will be happy to advise you through the procedure.

Ensure that all tools and other items are clear of the machine and that the headstock cover is firmly locked in position before starting the lathe.

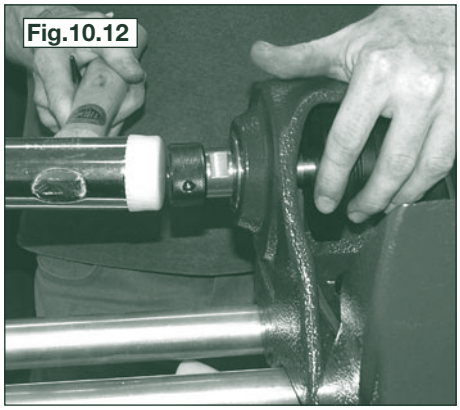


Fig.10.12

Fig.10.13

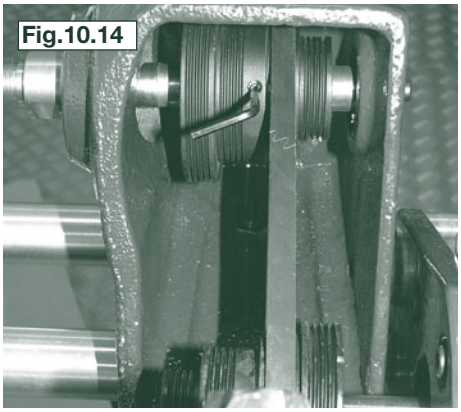


Fig.10.14

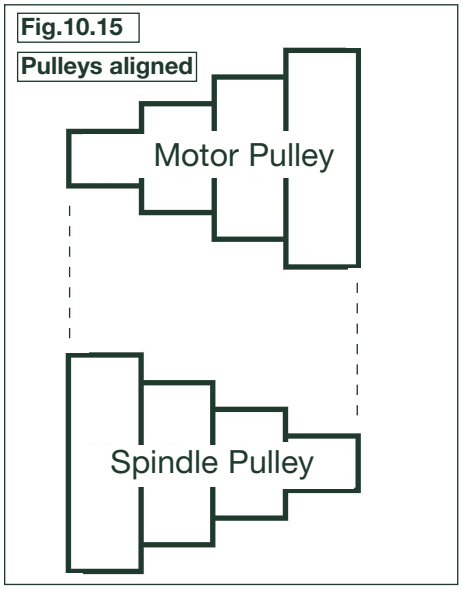
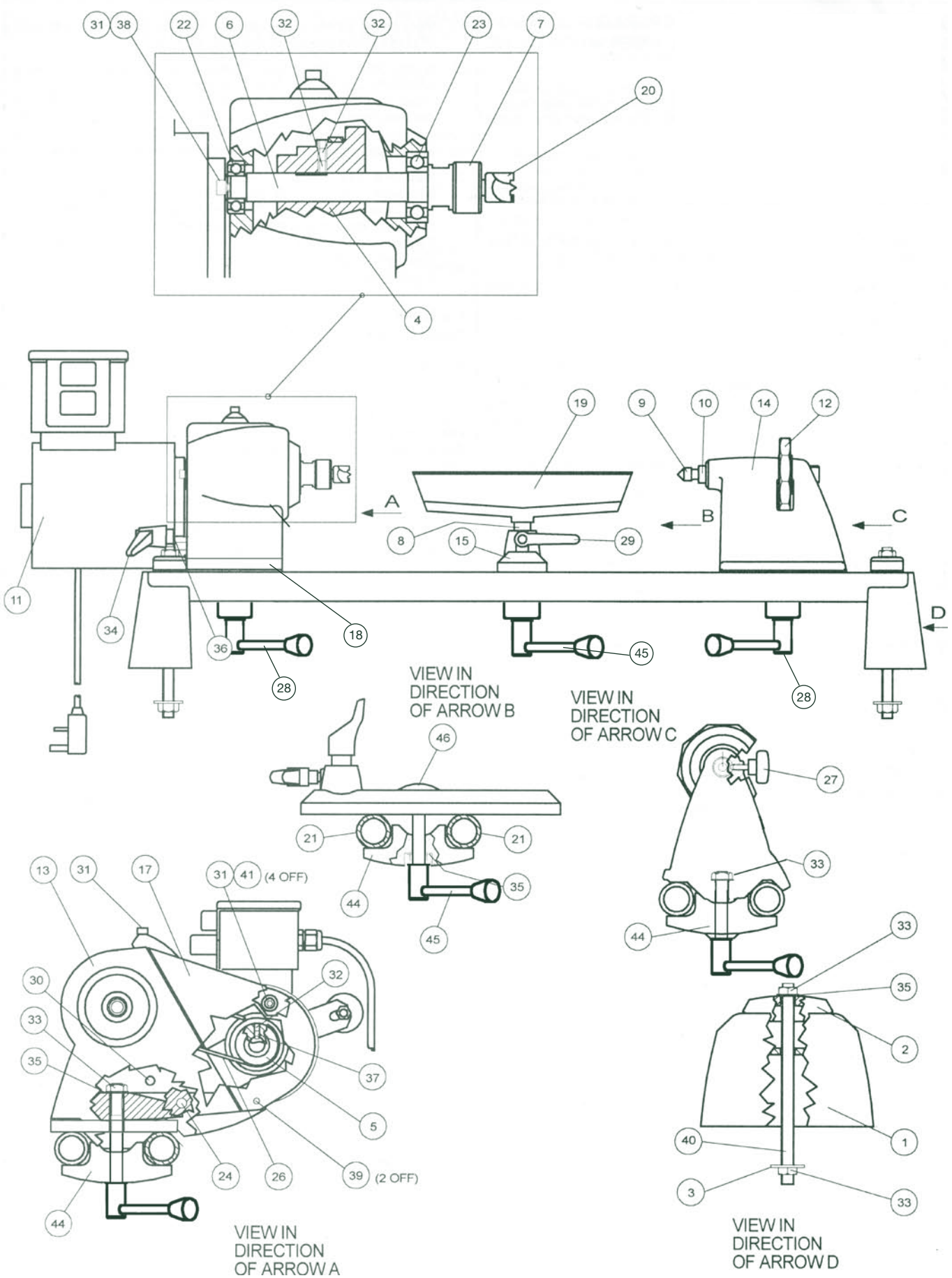


Fig.10.15
Pulleys aligned

11. Spare Part Identification



11. Spare Part Identification - cont.

ITEM No.	PART No.	DESCRIPTION	QTY
1	ZBD	End bracket	2
2	ZBH	Angle strap	2
3	ZAES	Washer – M12 large	2
4	CKSM	Spindle pulley – 4 speed	1
5	CKMM	Motor pulley – 4 speed	1
6	ZBQ	Main spindle	1
7	ZCP	Thread protector	1
8	ZBW	Toolrest stem	1
9	ZPN	90º Back centre	1
10	ZBR	Tailstock barrel	1
11	BOPM	Motor Plate,	1
		Switch, Cable & Plug (U.K.)	
		For replacement for other than U.K. please specify	
12	ZBA	Handwheel	1
13	CKHS	Headstock	1
14	ZBC	Tailstock	1
15	ZBE	Tool rest base	1
17	ZBJ	Belt guard	1
18	CKSS	Saddle	1
19	ZCF	10” Toolrest	1
20	ZPI	5/8” 2 Prong centre	1
21	CKBT	Bed bar	2
22	ZABD	Bearing – 6202ZZ	1
23	ZABE	Bearing – 6204ZZ	1
24	ZBS	Motor plate pivot	1
25	ZCA	Pry bar #	1
26	ZBO	Poly V-belt, 4 rib	1
27	CLKB	M6 Dog point knob	1
28	BOBT	Locking Handle M12 Male	2
29	CLRC	M8 Ratchet handle - Toolrest	1
30	ZABI	M10 x 35mm Threaded bar	1
31	ZABK	M6 x 18mm Socket head cap screw	6
32	ZABL	M6 x 8mm Socket grub screw	3
33	ZABM	Nut – M12	5
34	CLRG	M10 Ratchet handle	1
35	ZABO	Washer – M12	7
36	ZABP	Washer – M10	1
37	ZABR	M6 x 10mm dog point grub screw	1
38	ZABS	Bellville washer	1
39	ZABT	M6 x 20mm Sellock pin	3
40	BOAF	M12 x 210mm Threaded bar	2
41	ZAEW	Washer – M6	4
42	ZACJ	3mm Hexagonal wrench #	1
43	ZADA	5mm Hexagonal wrench #	1
44	CKPS	Square strap	2
45	BOBT-DML	Locking Handle M12 Female	1
46	CKCB	M12 x 80mm Cup Square	1

# Denotes not illustrated in parts diagram

12. Genuine Record Power Accessories

Approved Accessories & Spares Available In The Record Power Range of Woodturning Products.

PART NO.	DESCRIPTION
	GENERAL FITMENTS
RPLB 24-48	Lathe Bench for CL lathes
CL3B	Bowl Turning Rest for CL lathes
DML24S	Leg Stand for DML Lathes
DMLBR	Bowl Turning rest for DML lathes
CWA180	Tubular Tool Rest for Use With DML-BR
CLO/H	17" Tool Rest
CLO/J	10" Tool Rest
CL0/K	5" Tool Rest
	CONSUMABLES
CWA190	Friction Polish - White 'Speedaneez'
CWA191	Friction Polish - Standard 'Speedaneez'
CWA200	Carnuba Wax
RPSO-100	Spindle Oil – (100ml)
RPSO-250	Spindle Oil – (250ml)
CWA195	Silicone Spray
	CHUCKS & FACEPLATES
RP3500	Lever Scroll Chuck
RP4000	Geared Scroll Chuck
RP4000A	Dovetail Jaws for RP3500 & RP4000
RP4000B	Multi-purpose Jaws for RP3500 & RP4000
RP4000C	35mm Shark Jaws for RP3500 & RP4000
RP4000D	Pin Jaws for RP3500 & RP4000
RP4000E	Stepped Jaws for RP3500 & RP4000
RP4000F	Pin Jaws for RP3500 & RP4000
RP4000G	Shark Jaws for RP3500 & RP4000
RP4000H	285mm Bowl Jaws for RP3500 & RP4000
RP4000I	385mm Bowl Jaws for RP3500 & RP4000
RP3000X	Collet Chuck Set
RP3000F	2" Compression Jaw for RP3000X
RP3000H	1" Expanding Jaw for RP3000X
RP3000P	Service Pack for RP3000X
CWA 61	Woodscrew Chuck Heavy Duty 2 1/2"
CWA 62	Woodscrew Chuck Medium Duty 2 1/2"
CWA 70	Faceplate, Cast Iron 4"
CWA 71	Faceplate, Cast Iron 6"
	CENTRES AND SPINDLE ADAPTORS
CWA 80	4-Spur Centre – 7/8" Dia., No.1 Morse Taper
CWA 81	2-Spur Centre – 5/8" Dia., No.2 Morse Taper
CWA 93	Revolving (Live) Centre
CWA 100	Revolving (Live) Centre, Heavy Duty
CWA 101	Professional Centre
CWA 111	Shell Augers w/o Handle, 30" x 5/16"
CWA 131	Long Hole Boring Kit
CWA 140/160	Drill Chuck, 1/2" C/W Capacity Morse Taper
CWA 150/161	Drill Chuck, 3/4" C/W Capacity, Geared C/W Morse Taper
CWA 170	Threaded Protector Centre Ejector
	HSS TURNING TOOL SETS
RPCHS6	Set of 6 HSS Turning Tools: 3/4" Roughing Gouge, 1" Skew Chisel. 3/8" Parting Tool, 1/4", 3/8" & 1/2" Spindle Gouges.
RPCHS8	Set of 8 HSS Turning Tools: 3/4" Roughing Gouge, 1" Skew Chisel. 3/8" Parting Tool, 1/4", 3/8", 1/2" Spindle Gouges, 1/4" Deep Bowl Gouge & 3/4" Domed Scraper.
	INDIVIDUAL HSS TURNING TOOLS
CH 100	Roughing Gouge: 3/4"
CH 120	Roughing Gouge: 1 1/4"
CH 200	Spindle Gouge: 1/4"
CH 210	Spindle Gouge: 3/8"
CH 220	Spindle Gouge: 1/2"
CH 300	Skew Chisel: 1/2"
CH 310	Skew Chisel: 3/4"

PART NO.	DESCRIPTION
CH 320	Skew Chisel: 1"
CH 330	Skew Chisel: 1 1/4"
CH 410	Square End Chisel: 3/4"
CH 420	Square End Chisel: 1"
CH 500	Parting Tool: 1/8"
CH 520	Parting and Beading Tool: 3/8"
CH 600	Deep Bowl Gouge: 1/2"
CH 601	Deep Bowl Gouge: 1/4"
CH 700	Domed Scraper: 1/2"
CH 701	Domed Scraper: 3/4"
CH 702	Domed Scraper: 1"
CH 800	Straight Scraper
CH 810	Full Round Scraper
CH 820	Domed Scraper
CH 830	Half Round Left Hand Scraper
CH 831	Half Round Right Hand Scraper
CH 840	Skew Left Hand Scraper
CH 841	Skew Right Hand Scraper
CH 900	Oval Skew Chisel: 3/4"
CH 910	Oval Skew Chisel: 1"
CH 920	Oval Skew Chisel: 1 1/4"
	BEARINGS, SPINDLES & BELTS
ZACG	Back Bearing for CL2, CL3 & CL4
ZJR	Bronze Bearing for CL2, CL3 & CL4
ZABD	Back Bearing for DML24X, DML36SH, CL1, CL0, CL5 & RPML300
ZABE	Front Bearing for DML24X, DML36SH, CL1, CL0, CL5 & RPML300
CL4/I	Drive Belt for CL4
CL3/I	Drive Belt for CL2 & CL3
CL0/I	Drive Belt for DML24X, DML36SH, CL1, CL0, CL5 & RPML300
ZJT	Main Spindle for CL2, CL3 & CL4
ZBQ	Main Spindle for DML24X, DML36SH, CL1, CL0, CL5 & RPML300
	FURTHER MACHINES FOR A WOODTURNING WORKSHOP
RPBG6	6" Bench Grinder
RPBG8	8" Bench Grinder
SCAN150	6" Wetstone Grinder
SCAN200	8" Wetstone Grinder
SCAN200S	8" Wetstone Grinder With Polishing Wheel
BS250	Benchtop Bandsaw
BS300	Medium Floorstanding Bandsaw
BS350	Large Floorstanding Bandsaw
BS500	Heavy Duty Bandsaw
DP58B	Benchtop Drilling Machine
DP58P	Floorstanding Drilling Machine
BDS150	6" x 4" Belt & Disc Sander
BDS250	10" x 6" Belt & Disc Sander
RSDE1	45 Litre High Filtration Dust Extractor
RSDE2	50 Litre High Filtration Mobile Dust Extractor
RSDE3	80 Litre High Filtration Wall Mounted Dust Extractor
DX4000	80 Litre Twin Motor High Filtration Dust Extractor
DX5000	200 Litre Twin Motor High Filtration Wall Mounted Dust Extractor

For further details on any Record Power product

Tel: 0870 770 1777

Email: sales@recordpower.co.uk

http://www.recordpower.co.uk

EU Declaration of Conformity

Cert No: EU / DML36SH-MKII / 1

RECORD POWER LIMITED, Unit B, Adelphi Way, Ireland Industrial Est. Staveley S43 3BLS
declares that the machinery described:-

1. Type: **Professional Woodturning Lathe**
2. Model No: **DML36SH-MKII**
3. Serial No .....

Conforms with the following directives:-

LOW VOLTAGE DIRECTIVE and its subsequent amendment	73/23/EEC 93/68/EEC
ELECTROMAGNETIC COMPATIBILITY DIRECTIVE and its subsequent amendments	89/336EEC

CE

and complies with the relevant essential health and safety requirements.

Signed.....Dated: **05/01/05**

Andrew Greensted
Managing Director

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SHEFFIELD · ENGLAND®

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